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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,603	02/07/2004	David Edward Wenstrup	5748	7759

7590 12/21/2005  
Jeffery E. Bacon  
Legal Department, M-495  
PO Box 1926  
Spartanburg, SC 29304

EXAMINER

GOFMAN, ANNA

ART UNIT PAPER NUMBER

1771

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/773,603	Applicant(s) WENSTRUP ET AL.	
	Examiner Anna Gofman	Art Unit 1771	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>07/04</u> . | 6) <input type="checkbox"/> Other: _____  |

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-14, drawn to heat shields, classified in class 442, subclass 237.
  - II. Claim 15-20, drawn to a method of making a heat shield, classified in class 156, subclass 148.
2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process used for making a heat shield can also be used to make absorbent or building materials.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Jeffrey E. Bacon on December 2, 2005 a provisional election was made without traverse to prosecute the invention of group I, claims 1-14. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 recites the limitation, "the core layer has an entanglement zone, within which shell fibers from the shell are entangled with core fibers from the core." It is unclear what is the spatial relation of the "entanglement zone", located on the core layer. Examiner will interpret that the fibers of the core and outer layers be entangled in any location of the material.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaffney et al. (US 2003/0100239) in view of Geirhos et al. (US 5,856,243).

Gaffney et al. teach a carbon-matrix and carbon-carbon multi-layered composite material, comprising thermoplastic fibers, which can be polyester (pg.5 par. 0063), and reinforcing fibers, such as unoxidized polyacrylonitrile fibers (pg.1 par. 0012).

Unoxidized polyacrylonitrile fibers have not yet been carbonized. It is inherent that unoxidized fibers would imply not fully oxidized, or partially oxidized fibers. The matrix acts as a core layer and the carbon-carbon composite acts as the outer layers. The material can be a non-woven fabric, in which the two types of fibers of the carbon-matrix are intermingled (pg.2 par. 0013). The fibers may be of staple length (pg.4 par. 0051). The reinforcing fibers may be fusible fibers (pg.3 par. 0047) and the thermoplastic fibers may be melt-spun filaments, containing a minimal amount of voids (pg.4 par. 0049), which are also known as hollow filament fibers.

Gaffney et al. fail to teach two types of thermoplastic fibers, with one type having a lower melting point than the other. Geirhos et al. is drawn to textile composites using a hybrid yarn and melt-spun fibers. Geirhos et al. teach a multilayered construction comprising a blend of thermoplastic, lower melting thermoplastic, and reinforcing fibers (pg.2 col.4 lines 66-67 and pg.3 col.5 lines 1-2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a blend of thermoplastic and lower melting thermoplastic fibers in the invention of Gaffney et al., motivated by Geirhos et al. to make the inner core layer more flexible, and thus, after the lower melting fibers melt, an adhesive layer between the two outer sheets forms. Therefore, claims 1-14 are rejected.

9. The recitation, "a moldable heat shield" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble

for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

### **Conclusion**

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In addition to the references provided by Applicant, the follow documents are considered pertinent to Applicant's invention:

Rockman et al. (US 6,258,203) teach a circuit board made of several layers, comprising a non-woven layer of polyacrylonitrile and thermoplastic fibers, but fail to disclose polyester and melt-spun fibers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anna Gofman whose telephone number is (571) 272-7419. The examiner can normally be reached on Mon.-Fri. 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1771

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anna Gofman  
Examiner  
Art Unit 1771

AG

*Elizabeth M. Cole*  
ELIZABETH M. COLE  
PRINCIPAL